

CoSF-D-TM-M Single Frequency Fiber Laser Module



Description:

Connet CoSF-D narrow linewidth single frequency fiber laser is a low-noise single frequency fiber laser independently developed by patent technology. It adopts distributed feedback Bragg grating (DFB) fiber laser technology and has independent intellectual property rights. The single frequency fiber laser It has a stable single polarization, single longitudinal mode, ultra-narrow linewidth single frequency laser output.

Connet adopts the relative intensity noise (RIN) suppression technology outside the cavity to ensure the low noise operation of the CoSF-D single frequency fiber laser. The CoSF-D single frequency fiber laser has excellent performance, with very low phase noise and frequency noise. The basic module of the CoSF-D narrow linewidth single frequency fiber laser has a small size, a sturdy package, and strong anti-interference ability.

The CoSF-D-TM-M module is based on Thulium-doped fiber, and the center wavelength can be selected in the 1850nm to 2100nm range. The output power can reach 20mW. The typical line width is less than 20kHz.

Features:

- Narrow linewidth <20kHz
- Customizable operating wavelength
- Stable single frequency, single polarization output
- Superior noise operation
- High reliability

Applications:

- Distributed optical fiber sensing
- Coherent LiDAR
- Laser spectroscopy
- Gas absorption measurement
- Scientific research

Specifications:

Parameter	Unit	Specification		
		Min	Typ.	Max
Part no.		CoSF-D-TM-M		
Center wavelength ¹	nm	1850-2100 nm fixed, other specify		
Output power ²	mW	20		
Laser output		CW, Single frequency & Single longitudinal mode		
Beam quality	M ²	-	1.05	1.1
Linewidth	kHz	-	10	20
RIN peak frequency	MHz	0.4	1.0	1.6
RIN peak	dBc/Hz	-	-110	-100
RIN @10MHz	dBc/Hz	-	-140	-130
SMSR (50pm resolution)	dB	45	50	-
Output polarization		Linear		
Polarization extinction ratio (PER)	dB	20	22	-
Output power stability	%	-	±1	±2
Output isolation	dB	30	35	-
Wavelength thermal tuning	nm	-	0.6	-
PZT wavelength modulation		Optional		
Modulation frequency (linear)	kHz	DC	10	20
Modulation wavelength range	GHz	-	8	10
Operating temperature	°C	0	-	+40
Storage temperature	°C	-20	-	+60
Power supply	V _{DC}	12		
Communication interface		RS485		
Output fiber type		Panda PM1950		
Output fiber length	m	>0.5		
Output optical connector		FC/APC		
Dimension	mm	200x200x45		

Notes:

1. Typical center wavelength: 1940nm, 2050nm, Other wavelengths available.
2. Higher power available, 20mW is fixed, 50mW and 100mW output power are adjustable.

Ordering Information:

CoSF-D-Tm-M-<xxxx>-<PW>-PMF/SMF-PZT-FA

PW: Output power, 20mW is fixed, 50mW and 100mW output power are adjustable.

SMF output is upon request, PZT fast modulation is optional. Monitoring output is upon request.